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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional): 2101/50765

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Application Number	Filed
10/089,182	July 25, 2002

First Named Inventor: Colin David SILLENCE

Art Unit	Examiner
2836	NGUYEN, D.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).
Note: No more than five (5) pages may be provided.

I am the

- ☐ applicant/inventor.
- ☐ assignee of record of the entire interest. See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)
- ☒ attorney or agent of record. Registration number 31,824
- ☐ attorney or agent acting under 37 CFR 1.34. Registration number if acting under 37 CFR 1.34 _____

Gary R Edwards
Signature

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Typed or printed name

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September 19, 2005
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

GRE:kms

STATEMENT OF REASONS FOR REVERSAL PRIOR TO APPEAL

This statement is submitted in support of Applicants' Pre-Appeal Brief Request for Review (PTO/SB33) filed herewith.

Claims 17 through 29 are currently pending in this application. Of these, Claims 17-27 and 29 have been allowed, as indicated on page 1 of the Office Action dated April 19, 2005. Claim 28, however, has been rejected under 35 U.S.C. §102(b) as anticipated by Honigsbaum (U.S. Patent No. 4,886,221). However, for the reasons summarized briefly below, Applicants respectfully submit that Claim 28 distinguishes over Honigsbaum, and is allowable.

The invention of Claim 28 is directed to a lightning protection method, and in particular to a method for conducting lightning across the surface of a non-conducting article. Thus, like the lightning rod, which is frequently mounted on the uppermost portion of a structure, the method provides a conductive path which is sufficient to accommodate the electrical currents which result from lightning strikes. Those skilled in the art will recognize that such currents are extremely large.

For this purpose, the method according to Claim 28 includes, among other things, the steps of delivering a conducting fluid to the outer surface of a non-conducting article prior to a lightning strike, and directing the conducting fluid across the outer circle of the article, thereby providing a conductive channel

which, in the words of Claim 28 has "a current conducting capacity sufficient for passage of electrical current resulting from a lightning strike, and for dissipating said current through a conductive medium to which the article is electrically coupled". The latter feature of the invention is neither taught nor suggested by the cited Honigsbaum reference.

Honigsbaum discloses a method for minimizing the likelihood of lightning strikes on, for example, the body of an aircraft or space craft, by regulating the electrostatic potential of the aircraft or space craft, as described in the "Summary of the Invention", at Column 2, line 38 through Column 3, line 29. Thus, for example, at Column 2, line 50, the specification states that,

> "For space craft launched from earth and approaching charged clouds, the probability of lightning strike is increased because the engine exhaust tends to maintain these craft at earth potential so that they become prime targets for cloud discharge unless the potential of the craft is adjusted toward that of the clouds as the former approaches the latter."

The mechanism by which Honigsbaum regulates the electrostatic potential on the body of the aircraft is to provide a "second body" (the craft itself being the

"first body"), which is maintained at a desired potential by an inherent charge control means. The potential of the aircraft or space craft itself is then adjusted to the potential of the second body by means of a charge transfer mechanism that is responsive to the potential difference between the two bodies.

The second body, which is electrically isolated from, but mechanically connected to, the aircraft body is maintained at the desired potential by the ejection of "droplets that are charged by the well-known electrostatic mechanism of contact electrification, and in such a way that charges that would otherwise unfavorably alter this potential are carried off by the droplets". In particular, as shown in Figure 1A, and described in the specification at Column 4, lines 13-40, the mechanism by which the second body is shifted toward the desired level of neutrality relative to its surroundings is the emission of electrostatically charged fluid droplets 130 from the ends of respective electrically conductive capillaries 125. As discussed at Column 4, lines 37-40, the result of the emission of such droplets is that the potential of the second body is shifted toward the desired level of neutrality.

Thereafter, the potential of the first body is adjusted to that of the second body by a first body charge removal mechanism that is responsive to the potential difference between the two bodies, as noted at Column 4, lines 41-44. More specifically, the mechanism for removing charge from the first body, such

that it is adjusted toward the neutral potential of the second body is described at Column 5, lines 3-22. It involves the use of a high voltage power supply 170, under the control of a signal from a controller 160, such that ions of the required polarity are formed and attach themselves to exhaust particulate, aerosols, condensate, etc. which is carried off in the exhaust discharge, as noted at Column 5, lines 18-22.

The Honigsbaum reference clearly fails to teach or suggest a method or apparatus in which conducting fluids are directed across the outer surface of a non-conducting article, "thereby providing a conductive channel having a current conducting capacity sufficient for passage of electrical current resulting from a lightning strike and for dissipating said current through a conductive medium to which the article is electrically coupled". In fact, the only charge transfer mechanism in Honigsbaum which involves the use of fluids at all is the emission of electrostatically charged droplets 131 from the second body 130, as noted previously. Certainly, nothing in Honigsbaum teaches or suggests conducting the extremely high currents inherent in a lightning strike across the surface of a non-conducting body via a channel of a conducting fluid. The structure is incapable of doing so.

For the reasons set forth above, Applicants respectfully request that the panel assigned to review the final rejection allow the application, including in particular, rejected Claim 28.